A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

DESIGN AND IMPLEMENTATION OF AN ASSURANCE MAP AT SONAE RETAIL BUSINESS

ANA SOFIA MURTEIRA PIMENTA DE CASTRO (1033)

A Project carried out on the Master in Finance Program, under the supervision of:

Associate Professor Maria João Major

JANUARY, 2016

Abstract

The present Working Project aims at studying the topic of assurance mapping in a specific organizational context of a Portuguese retail company. For this purpose, an assurance map framework was designed to support the decision making process of stakeholders, through the delivery of comfort concerning risks, operations and control. In the end, the framework was successfully implemented for the process sourcing of goods in two business units of the company. Although, further implementation of the framework proved not to be feasible during the project's timespan, it is expected to occur in the near future.

Keywords: Assurance Map, Combined Assurance, Internal Audit, Retail Companies.

Introduction

Nowadays, modern companies face an uncertain and risky business environment, resulting from markets' globalization, rigorous regulation, technological advancements and enterprise scandals (Kapoor and Brozzetti, 2012). Senior management is required to supervise and control activities to ensure the accomplishment of corporate objectives. As a matter of fact, the establishment of the Sarbanes Oxley-Act has emphasised even more the need for supervision, internal controls and corporate governance (Sarens and De Beelde, 2006; Zhang et al., 2007). Therefore, companies are demanding increasing assurance over risks, operations and control.

Assurance mapping appeared as a business practice to support companies with this issue. This recent technique results in a visual map that summarizes the activities of assurance carried out by a company and the level of comfort regarding risks, controls and governance, for each process of the company.

Therefore, the following research, which is a Directed Research Internship, aims at exploring this concept by designing and implementing an assurance map for Sonae, a Portuguese retail company. More specifically, the purpose consists of developing a methodology and, afterwards, operationalizing it for a process of the above-mentioned company. In such manner, the researcher actively participates in the investigation, which follows a qualitative approach.

The report is composed by five sections, being this introduction the first. Section 2 reviews the empirical literature regarding the key concepts of assurance mapping. In Section 3, the methodology and research question are explained. Section 4 discusses the design and implementation of the map and provides recommendations for the company. Finally, Section 5 compiles the main contributions and limitations of this research.

1. Literature Review

1.1. Assurance

The recent financial crisis had revealed the failure of risk management since companies were not capable of implementing risk mitigation measures or, even, identifying risks in an adequate and timely manner (Huber and Scheytt, 2013). Boards of Directors have the responsibility of overseeing operations, risk management and internal controls (Organisation for Economic Co-operation and Development [OECD], 2015; Sarens, De Beelde and Everaert, 2008). However, one may argue that, during the global crisis, they have not successfully performed that supervising role. This can be, partially, explained by the information scarcity problem: "board members did not have access to relevant information on the risks management incurred because they had no control over information supply" (Pirson and Turnbull, 2011, p. 459).

Still regarding Board's duties, they require assurance over processes and risks in order to succeed in that oversight function as well as giving valuable strategic guidance. In fact, assurance is needed by other corporate stakeholders too. The concept of assurance services is described by The Institute of Internal Auditors (hereafter IIA) as *"an objective examination of evidence for the purpose of providing an independent assessment on governance, risk management, and control processes for the organization"* (IIA, 2008, p. 19). Summarizing, assurance grants comfort regarding the risk exposure and the status of internal control.

Beyond that, having assurance over a process indicates that risks are being minimized and enterprise objectives will be achieved (IIA, 2009; Decaux and Sarens, 2015; Parkinson 2004), which is exactly the information needed by senior managers that have "(…) to compensate for the loss of control they experience resulting from increased organizational complexity" (Sarens and De Beelde, 2006, p. 219). Moreover, Sarens, et al., (2008) have concluded that Audit Committees

are also looking for assurance-related information notably concerning control environment and internal controls.

1.2. Sources of Assurance / Assurance Providers

Numerous sources of assurance are needed to give a different view regarding the comfort granted for risks and processes of various natures. Therefore, it can be identified the following assurance providers for an organization: operational management, quality and environment department, risk management, compliance, internal audit function, external audit, external regulators, among others (IIA, 2009).

It is worth mentioning that providers can be distinguished by their independency from activities whose assurance is being evaluated; the effectiveness of the assurance conceded; and also by the entity to whom they report (IIA, 2009).

1.2.1. Model of Three Lines of Defence

The Three Lines of Defence Model is a useful framework to categorize providers of assurance. Each defence line involves a role and holds a set of responsibilities to support risk and control management (IIA, 2013). It is imperative that the allocation of responsibilities is accurate and unambiguous to prevent either duplication of efforts or assurance breaches (IIA, 2013; Decaux and Sarens, 2015). For an illustration of the Three Lines Defence Model, refer to Appendix A.

Governing bodies and senior management are served by the model and, thus, they are not included in any defence line. In fact, these stakeholders have a specific function towards the model, safeguarding the applicability of the three lines in the organization (IIA, 2013).

The first line concerns to operational management whereas it “groups together the functions that own and manage risks on a daily basis” (Decaux and Sarens, 2015, p. 60). In addition, managers

should design, implement and guarantee the effectiveness of internal controls and procedures. Mainly, the first line of defence should oversee activities to assess their efficiency level and risk exposure, thus, ensuring that enterprise goals are achievable (IIA, 2013; Decaux and Sarens, 2015).

The optimal would be the existence of solely the first line of defence, since risks should be completely mitigated by operational management. However, real business companies will feel the need to supervise managers (IIA, 2013). In order to do that, companies have functions to oversee risks and to assist the first line - with their duties related with assurance and risk. Thus, the second line of defence encompasses departments whose mission is related with risk management, compliance, financial reporting, control and quality, for example. These functions own a higher level of autonomy than the first line, although they are allowed to collaborate in the design and implementation of internal controls (IIA, 2013; Decaux and Sarens, 2015).

The third line of defence comprises the internal audit activity. This is the highest degree of assurance independence knowing that it reports directly to senior management and governing bodies (IIA, 2013). The following explanation of Internal Audit, provided by the IIA (2008), demonstrates the importance of this function for the assurance services of a company:

"A department, division, team of consultants, or other practitioner(s) that provides independent, objective assurance and consulting services designed to add value and improve an organization's operations. The internal audit activity helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of governance, risk management and control processes" (p. 21).

As a matter of fact, after the US accounting scandals, internal audit has been increasingly recognized as a valued source of assurance for senior management and audit committees (Anderson et al., 2012). These stakeholders, who seek for assurance and comfort about operations, have confidence on internal auditors who "(…) acquire an intimate knowledge of an organization's culture, processes, risks and controls, and thereby obtain the 'proprietary knowledge' that figures prominently comfort seekers(…)" (Sarens et al., 2008, p. 94).

Therefore, top managers rely on internal audit to be the key function providing independent assurance on processes and controls through continuous monitoring and periodic reports (Sarens and De Beelde, 2006). Indeed, internal auditors should take the leader role in the alignment of assurance providers included in the three defence lines, as it will be later explained.

In many cases, companies have other sources of assurance such as external auditors, regulators or credit agencies. These external stakeholders might be additional layers of assurance when they impose improvement in controls. On these conditions, companies should coordinate control activities with them too (IIA, 2013; Decaux and Sarens, 2015).

1.3. Assurance Map

This working paper has already pointed out the importance of providing assurance to senior managers, boards and audit committees. Furthermore, it has mentioned that assurance providers may be categorized by line of defence and also that those lines should be coordinated. Coordination of assurance activities in a company is fundamental. Through the coordination of tasks and responsibilities of the defence lines, it is possible to guarantee suitable assurance coverage. Meaning that gaps of assurance are avoided and duplicated efforts are minimized. This leads to resources being used in an efficient manner (Decaux and Sarens, 2015; IIA, 2009; Jackson, 2015; Kapoor and Brozzetti, 2012).

According to the IIA (2009) it should be the chief audit executive (hereafter CAE) to take the strategic and leadership role of coordinating the assurance activities at the company. This might be accomplished through an assurance map which aims, exactly, at promoting and communicating assurance coordination. It maps the assurance activities from the different defence lines for each risk or process of the company; indicating its level of assurance provided through a colour system, which allows for an immediate interpretation of the map (IIA, 2009).

An assurance map assists internal audit understanding if more than one function is granting excessive assurance over the same risk or process and it also reveals areas with lack of assurance. Resulting in both a cost reduction and the improvement of internal control environment and risk management (IIA, 2009; Kapoor and Brozzetti, 2012).

Some authors define assurance map as combined assurance. Decaux and Sarens (2015), for instance, provide the following description of the latter term: "In a nutshell, combined assurance aims to provide holistic assurance to the board on the effectiveness of risk management and internal control systems by coordinating assurance" (p. 57). Hence, both terms will be used as equivalents.

Companies that adopt assurance mapping will benefit from a generalized enhancement of corporate governance, risk assessment and compliance throughout the organization (Jackson, 2015). Furthermore, senior managers and boards will have access to a holistic view of the company's risks and its level of assurance, providing them with comfort that would not be easy to achieve otherwise (IIA, 2009). Additionally, the internal audit department profit from the assurance map through the recognition of risks to be monitored and included in its annual plan. (Kapoor and Brozzetti, 2012)

1.3.1. Implementing an Assurance Map

The literature concerning assurance mapping implementation is very limited which is due to the fact that companies are still learning from this recent concept. Nevertheless, Decaux and Sarens (2015) have concluded that some factors have impact on the success of an assurance map, such as having a sophisticated risk management framework; establishing a coordinator for the assurance map or creating awareness of assurance.

Indeed, it is important that both the concepts of assurance map and its value for the company are clearly understood by managers and employees across the defence lines. Only this way, they are capable of monitoring internal controls and understand risks in order to provide assurance (Sarens and De Beelde, 2006). Besides, top managers' buy-in is critical for the success of the assurance map approach since the internal audit will need support from executives, as well as resources to the development phase (Decaux and Sarens, 2015; Jackson, 2015).

Finally, the level of assurance provided should reflect the risk exposure and the likelihood of achieving enterprise objectives. An adequate assurance occurs when risk exposure is minimized and internal controls are working efficiently, indicating that company's goals and strategy will be, certainly, reached. On the other hand, if internal controls are insufficient, there is a significant residual risk so the assurance level should be considered inadequate. Succeeding that, the assurance adequacy level should be translated into a colour, in accordance with a colour scale defined by the company (Beumer, 2015).

2. Methodology

2.1. Objectives of Internship and the research question

Nowadays, accounting research is not only concerned with the analysis of theory; it is interested in producing empirical theories about institutional practices as well. This research analysis points

in that direction as it aims at providing an answer to the following research question: *How to design and implement an assurance map at a Portuguese retail company?* Retail companies, given its competitive nature, are usually subject to considerable risks, either strategic, financial, non-compliance or even IT systems risks (BDO, 2015). Therefore, implementing an Assurance Map is not only reasonable but also fundamental.

Towards finding a practical solution for the stated question, the researcher engaged in an internship at Sonae's Internal Audit department, which have started on the 14th of September and it is expected to be concluded on the 21st of January.

The internship has three specific objectives that, together, answer to the key research question mentioned above. The first objective is to design the assurance map framework; the second one refers to the operationalization of the framework. However, because of the internship's limit of time, it was operationalized just for one process in two business units of the company. Afterwards, the model framework and its implementation were analysed to find potential areas of improvement, representing the third and last objective of the project.

2.2. Research Method

This investigation follows a qualitative research method, rather than a quantitative one, given that the evidence collected and analysis methods are flexible and not structured (Mason, 2002; Yin, 2015). This approach was chosen as the most appropriate since the investigation will occur in a detailed and complex environment.

As a matter of fact, the researcher was working for the company under investigation, directly developing a practical solution for the research question of this report. Therefore the role of the researcher is considered active participation, since, according with Ryan et al. (2002), "(…) the

researcher is directly involved in the organization – possibly introducing a new system or procedure. As such, "the researcher is an active participant in the process being researched" (p. 152).

2.3. Plan and Steps followed

In pursuance of analysing the research question previously mentioned, a plan was created and practical steps defined (see Appendix B for the chronological plan of the research). The proposed plan for this project comprised nine phases (Appendix C), which were interactive rather than sequential since some of them were not concluded when the next was initiated. The first two phases were prior to the design and development of the framework; the following six phases were related with the design and implementation of the assurance map framework; and the last one was subsequent to both the design and implementation of the map.

The plan commenced with the examination of internal documents and external literature relevant to the development of an assurance map. Additionally, the researcher analysed the previous efforts performed by the department towards the design of the map. The next step of the plan was the definition of the project's objectives, including the choice of the process and the business unit where the implementation would occur. These objectives and the proposed plan of action were, afterwards, validated by the CAE, together with the directors and coordinators of the department.

The subsequent step was the design of the model framework, which comprised the next five steps. It began with the development of a list of business processes existent in the company. This list defined the vertical axis of the map, thus it is unique and possible to apply to every entity within the group. Afterwards, the researcher identified the assurance providers at the company, i.e. the horizontal axis of the map, and organized them according to the model of three lines of defence.

Following the proposed plan, the next stage was the establishment of the criteria to be used when evaluating the assurance level. These criteria might not be identical for every defence lines or departments since they have different roles and purposes. Subsequently, and based on the criteria selected in the previous phase, the researcher elaborated distinct inquiries for the providers of assurance. The last phase of the model's design was the development of the framework in Excel, which organizes all the inputs from the previous phases.

Succeeding the model design, takes place its implementation. This comprised the information gathering which is the operationalization of the map itself, through the application of the inquiries to the process owners and directors in charge of the departments included in the defence lines. In some cases, these inquiries were realized using semi-structured interviews to test the comprehension of the questions and to have critical feedback. The information collected was then transcript to the framework which automatically calculates the level of assurance.

Finally, the tenth and posterior phase refer to the analysis of results. More specifically, it involved the identification of processes with inadequate assurance and others with excessive assurance in order to define corrective measures and report results.

2.4. Sources of evidence

In pursuance of collecting evidence, the researcher used several sources such as documentary analysis, unstructured and semi-structured interviews, inquiries, questionnaires and participant observation, in order to assure data triangulation (Ryan et al., 2002; Yin, 2015). Regarding documentary evidence, both external documents (e.g. IIA Standards and Guidance) and internal archives (e.g. company's norms and handbooks, auditing reports and other reports related with undertaken projects) were explored (for a list of consulted documents, refer to Appendix D). By

these means, one may analyse work previously performed that is related with assurance maps and similar projects carried out at the company.

The unstructured interviews occurred, mainly, at the beginning of the project, with the department directors and coordinators. These interviews allowed for a deeper understanding of several topics along with the definition of objectives since they based on a dialogue where facts could be explained and not only described (Mason, 2002). Semi-structured interviews and questionnaires were used in the implementation phase of the assurance map, as a manner of measuring the level of assurance provided by each department. This data is not available in a documentary manner meaning that it is only attainable either by observation or questioning. Observing would be an interminable process, which is why this method was preferred. None of the interviews was tape-recorded given the organizational context where they occurred; as an alternative, extensive note-taking was used (Yin, 2015).

Finally, participant observation was adopted through daily monitoring of activities and attendance in meetings. This source of evidence is appropriate when the researcher is deeply involved in the studied context, such as in internship situations, because practical data can be collected (Appendix E exhibits a list of meeting and interviews).

2.5. Description of company and department

As previously mentioned, this internship took place at Sonae. Sonae was founded in 1959 and today it is one of the largest Portuguese companies employing more than 40.000 people (Sonae, 2014a). Last year Sonae's sales turnover was 4,974 million euros and the net profit for the same period amounted to 144 million euros (Sonae, 2014b). Sonae is a publicly-traded company listed on the Euronext Lisbon Stock Exchange. Its principal shareholder is Efanor which holds 53% of the shares outstanding (Sonae, 2014c).

Sonae's businesses portfolio is divided in three groups: core business, related business and core partnerships (See Appendix F for an illustration of the group structure). The core businesses are Sonae Modelo Continente (hereafter Sonae MC) and Sonae Specialized Retail (henceforth, Sonae SR). Sonae MC operates in the food retail market while Sonae SR includes activities related with technologies, sports and fashion. Each of the core business has several business units whose operational activities are independent from each other (See Appendix G). Sonae MC units are: Continente, Continente Modelo, Continente Bom Dia, Continente Ice, Bom Bocado, Well's, Note!, Pet & Plants and Meu Super[1]. On the other hand, Sonae SR comprises the following business units: MO, Zippy, Sportzone, Worten, and Worten Mobile (Sonae, 2014c).

Sonae's related businesses consists of Sonae Retail Properties (henceforth Sonae RP), which manages the group's retail properties, and Sonae Investment Management (also known as Sonae IM), that includes investments on software, information systems, technology and other business areas. Lastly, the core partnerships of the company refer to strategic participations in the telecommunications and shopping (Sonae, 2014c).

The researcher developed her work in the department of Internal Audit and Procedures, named Direção de Auditoria e Gestão de Procedimentos (henceforth DAGP). DAGP is the department that provides independent and internal assurance to the board of Sonae Retail businesses. Therefore, DAGP reports directly to the Co-CEO, to the Board of Directors and to the Audit Committee.

The mission of DAGP is to evaluate the effectiveness of risk management, business control processes and information systems; in order to support the achievement of the company's goals and objectives. The department is composed of four areas – compliance and process audit, food

[1]Meu Super follows a franchising business model.

safety audit, information systems audit and procedures management- each of them with a specific scope (For the department organization chart and brief description of each area refer to Appendix H and I). The research was integrated in the compliance and process audit area, more precisely in the Retail Audit team, working with both coordinators of Sonae MC and Sonae SR.

3. The Assurance Map designed for Sonae

3.1. Assurance Map Framework

An assurance map was designed for each of the twelve business units of Sonae SR and Sonae MC. Top managers are interested in understanding the specific situation of individual businesses and brands in order to take measures accordingly. Therefore a unique map for the company would be more complex to understand since the assurance level would be weighted average of every business unit.

3.1.1. Vertical Axis – Process List

As it was previously mentioned in this WP, an assurance map might be based on business risks or company's processes. In this specific case, the assurance was evaluated for each process in order to follow the approach used in DAGP, the department where the map was developed. Hence, the vertical axis of the map would be a list of every business process at the company.

Considering that more than one list of processes already existed at the department, it was required to create a global process list that could be applied to every business unit and used by the different audit teams. This was crucial for the design of the framework, considering that the assurance map followed a process approach. The researcher analysed the existent lists and also the Process Classification Framework of APQC[2], which is one of the most used process framework since it allows for a shared terminology among companies. The development of the

[2] APQC is the acronym used when referring to the American Productivity & Quality Center.

list was a continuous and extensive stage, given that it has involved several unstructured interviews with coordinators and directors of the department in order to change and improve the list. The final and approved process list had more than six hundred items, classified by four levels of detail: value chain categories, group of processes, processes and sub processes[3].

3.1.2. Horizontal Axis – Lines of Defence

Furthermore, the horizontal axis presents the providers of assurance of the company through the Three Lines of Defence model (Figure 1 exhibits the model applied to Sonae). In that manner, the departments involved in the operational activities were associated to the first line, as they are directly responsible for risks and internal controls. Likewise, departments with support functions, which have control over operations of the first line, were identified and associated to the second line of defence. At last, the third line of defence comprises the areas of DAGP which have an internal audit function. The procedures team of DAGP was not included in this line since it does not perform audits; it supports operations instead and, thus, it was associated to the second line.

First Line of Defence	Second Line of Defence	Third Line of Defence
Commercial Department of Home and Bazaar (DCCB) • Commercial Department of Food(DCA) • Commercial Department of Perishables (DCTPT-Meat, Bakery and Take-Away; DCPCFL- Fish, Charcuterie, Fruit and Vegetables) • Administrative Services	• Risk Management Department (DGR) • Legal Department (DL) • Planning and Management Control Department (DPCG) • DAGP- Procedures Management (GP) • Business Information and Technology Department (BIT) • Assets Protection Department (DPA) • International Quality Department (DQI) • Treasury and Finance Department (DFT) • Fiscal Department (DAF) • Legal Advice and Corporate Governance Department (DAJCG) • DSA	• DAGP - Food Safety Audit (ASA) • DAGP - Information Systems Audit (ASI) • DAGP - Continuous Audit (AC) • DAGP - Process and Compliance Audit of Sonae SR (APC-SR) • DAGP - Process and Compliance Audit of Sonae MC APC-MC)

Figure 1 Three Lines of Defence Model applied to Sonae

[3] For confidential reasons, the list of processes could not be displayed in the Working Project.

Besides the lines of defence, the map also displays the global level of assurance; this value is extremely important since it will be the base of any analysis performed by top managers. The global assurance consists of a weighted average of the assurance level provided in every line; the weights that each line and each department should have are decided by the CAE of the company and can be altered at any time. Additionally, the CAE should indicate, for each business process, which departments of the second line support the control environment of each process. In spite of investigating both questions, the researcher produced an inquiry directed to the CAE, as he is the responsible for the coordination of assurance efforts at the company (IIA, 2009). (See Appendix J for an exemplification of the CAE inquiry).

3.2. Assessing the Assurance Level

Different lines of defence provide comfort over governance, control and risks in distinct manners. Hence, the criteria to evaluate each level of assurance must not be identical (Appendix L presents a summary of the criteria). In the first line, where the operational controls exist, the criteria used was the effectiveness of internal controls; the use of IT support systems; the enforcement of operational procedures, rules or regulations; the employees' knowledge about the process; and the occurrence of material losses, business disruption, or other similar incidents.

Internal controls were evaluated according to their existence, effectiveness on risk mitigation, type and frequency. In terms of type, controls should be classified as manual, semi-automatic or automatic. Frequency is the number of times the control is applied. In general, as more frequent, suitable and automatic the internal controls are, higher is the level of assurance.

Moreover, employees' knowledge can also improve the assurance level as they have an important role over processes control by understanding the daily operations, risks and how to prevent them.

Both the annual rate of employees' rotation and the existence of training about the specific process were used as variables to estimate the assurance provided. On the other hand, IT systems contribute to the automation of the process by reducing the possibility of errors. Likewise, enforcing internal procedures impose certain behaviours which help preventing risks. Finally, the level of assurance is not adequate if incidents, such as losses or business disruptions, have occurred recently, since it shows that risks are not being correctly addressed.

Regarding the criteria to assess the level of assurance provided by the second line, the effectiveness of internal controls should also be evaluated. Departments included in this line have auxiliary controls over the operations of the first line, such as management reports, validation or verification of relevant information. Furthermore, the use of IT systems and the existence of internal procedures and regulation continue being important factors for the comfort delivered to stakeholders over the processes. These three variables form the criteria for assessing the assurance in the second line, except for the Risk Management department (DGR) and for the Procedures Management department (DAGP-GP). These two departments provide assurance over the processes in a different manner given their function in the company. More specifically, DGR identifies, analyses and measures the risks of the company. Consequently, the criteria used to evaluate the assurance provided were the existence of a risk analysis, the seniority of the analysis and the implementation of risk mitigation actions. DAGP- GP, on the other hand, has the function of creating and reviewing internal procedures defined by the business areas, so the assurance granted is estimated by the existence of procedures, the date of its last revision, the need of an additional revision and the scope of the procedure.

Lastly, the third line of defence provides an independent and objective analysis of the processes through the execution of audits. Accordingly, the assurance criteria include the seniority of the

audit; the scope of the audit and the number of critical *findings* not yet solved. Regarding the seniority, the oldest the audit the less feasible it is and, consequently, the assurance provided decreases. Secondly, the scope of the audit determines if every activity of the process was investigated, to see the extent of the examination. The last criterion is the number of *findings*, which are the issues identified by the auditors. These *findings* are evaluated according to their risk level, defined in the company's risk matrix, and then communicated to the process owner. The owners define action plans to address the *findings;* and DAGP follows the implementation of those actions.

Inquiries were developed based on the criteria just explained (Appendix K, M, N, O and P exhibit each of the inquiries created). They are composed by several semi-closed and closed questions with different weights according to their importance for assessing the level of assurance. In addition, answers to each question are numerically coded, through a nominal scale, so that the final level of assurance is a value between zero and one. Besides that, values were attributed to each answer, and questions' weights are parameters that can be changed any time, although every change should be approved by the CAE. This value is then translated to a colour, according to the following legend.

	Level of Assurance	**Assurance Value**
	Adequate	$x > 0{,}75$
	Moderated	$0{,}5 < x \leq 0{,}75$
	Reduced	$0{,}25 < x \leq 0{,}5$
	Inadequate	$x \leq 0{,}25$
	Non applicable	

Table 1 Colour Legend for the assurance level

After gathering all the information needed to complete the map framework, an excel file was developed and it was used as a template that, afterwards, was reproduced to every business unit

(Appendix Q presents the excel template). To note that the framework consolidates not only the assurance maps but also the inquiries.

3.3. Operationalization of the Assurance Map framework

After the framework's design was completed, it was implemented for one process to exemplify the operationalization of the assurance map[4]. The process chosen was the Sourcing of Goods which embraces five sub-processes, as shown in the following table. This process was analysed in two commercial departments: *Zippy* and *DC Bazar, Casa e Têxtil* (hereafter *DCBC*), which are, respectively, a business unit of Sonae SR and a commercial unit responsible for the bazaar, house and textile products of Sonae MC.

Value Chain Category	Group of Processes	Process	Sub-process
Purchase	Purchase of Goods	Sourcing	Procurement
			Evaluation and Selection
			Negotiation
			Contract Management
			Revision and Maintenance of Suppliers

Table 2 Process of Sourcing of Goods

The operationalization started with the identification of the process owners for both *Zippy* and *DCBC*. This has defined who would respond to the first line inquiries. Still regarding this defence line, feasible internal controls were identified for each sub-process. These controls were listed in the first line inquiry, in order to confirm their existence and examine their efficiency (see Appendix R for a list of internal controls).

Afterwards the inquiry for the CAE was conducted in order to determine the departments of the second line of defence that would answer to this inquiry. The departments selected by the CAE were the *Risk Management, Procedures Management, Administrative Services, Legal* and *International Quality* departments. Besides that, through the CAE inquiry, the weights of each

[4] The map could not be implemented to every process of all the business units due to the constraint of time of the internship.

defence line and department were also established. At this trial phase of the project, the inquiries for the first and second line of assurance were conducted through structured interviews since this method allows any clarification or suggestion that the interviewee might have as well as it raises the number of answers.

Concerning the third line of defence, directors or coordinators of each area of DAGP answered to the inquiry. However, in this case, interviews were not used; instead the inquiry was explained to the different audit teams and then fulfilled by them. This approach was adopted given that DAGP was the department where the assurance map was being developed and thus everyone was aware of the project.

The outputs of this implementation were the assurance maps for both *DCCB* and *Zippy* exhibited in the subsequent figures. These maps should be reviewed by the Board of the company, the CAE, the audit committee and by the directors of the departments involved in this process. Therefore the results could be analysed in their specific context and, also, possible gaps of assurance could be appropriately addressed.

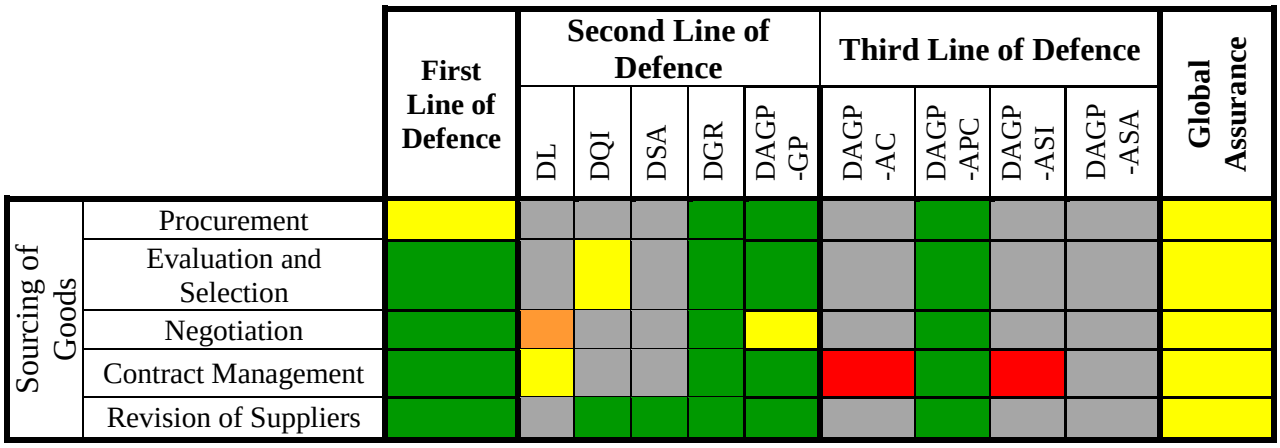

Figure 2 Simplified Assurance Map of DCCB

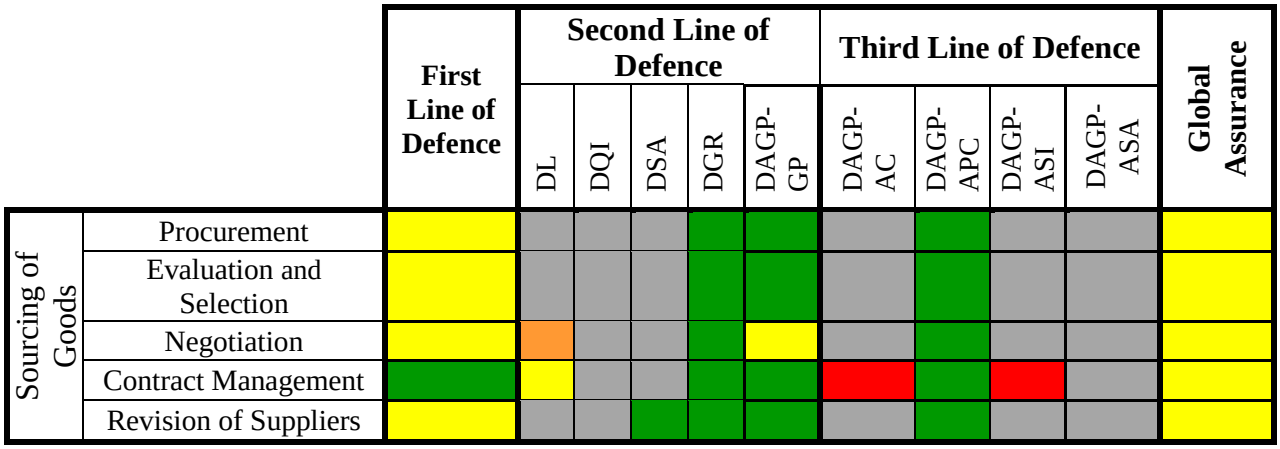

Figure 3 Simplified Assurance Map of Zippy

In a brief analysis of the maps, it is possible to conclude that every sub-process of both *DCCB* and *Zippy* have a moderated level of assurance. Regarding the first line of defence, the level of assurance provided in *DCCB* appears to be more adequate than in *Zippy*. Therefore, it is suggested that internal controls and the best practices of DCBB are shared with Zippy and adapted if needed. Moreover, IT supportive systems should be lined up with procedures to prevent errors due to unawareness or non-compliance with the internal rules.

Concerning the second line of defence, DSA, DGR and DAGP-GP provide an appropriate level of assurance for both commercial departments. Differently, the Legal Department (DL), which only supports the control activities of Negotiation and Contract Management sub-processes, provides a reduced level of assurance for the first one and moderated level for the second. This is explained by the continuous change of legal external regulation which leads to frequent reviews of business internal procedures that could not be feasible.

Moreover, the level of assurance granted by the third line of defence is identical in the two commercial departments, being appropriate for four sub-processes. For the Contract Management sub-process the assurance provided by the Process and Compliance Audit team is adequate and for both Continuous Audit and Information Systems Audit teams is insufficient. Although, it

would be advisable that these teams expand their assurance activities for this sub-process, it is not a concern for the company since it is considered that the assurance provided by the Process and Compliance team is the most relevant, for the process under analysis.

3.5. Recommendations

The Assurance Map should be revised to update the data from the inquiries. An annual revision is suggested, since that a shorter periodic review would not be feasible given the time necessary to complete it. Additionally, it should occur before the annual planning of the company, so that top managers and directors can consult this document and include in their annual plans actions to improve the assurance granted or minimize duplicated efforts.

The responsibilities of fulfilling the assurance map should be allocated within the teams of DAGP. Each team should select one auditor to be responsible of updating the information concerning the third line of defence. For the first two lines of defence, the fulfilment of the maps will probably happen at a slower pace. However it is advised that the inquiries are sent by e-mail for the respondents and then followed-up by the selected internal auditor.

In addition, it is suggested that top managers and boards are involved in the development of the assurance map; specifically they should support and sponsor this project as well as inform employees about the concept of assurance and its importance to the company (Decaux and Sarens, 2015). This will facilitate the complete integration of the map in the first and second lines of defence and increase the inquiries' response rate.

Conclusion

Through the review of the empirical literature, in Section 2, was concluded that research concerning assurance mapping is very scarce. Therefore, this Working Project contributes to fulfil that breach through the development of a methodology that guides companies on how to complete an assurance map exercise.

Indeed, the project's main result was the map developed and adapted to Sonae's requirements, as well as its operationalization for the process of Sourcing of Goods at *Zippy* and *DCCB*. The main benefits of this framework are the coordination of the assurance activities and the support granted to senior management and boards who will now have timely information regarding the status of risk coverage for the numerous processes and business units.

Nevertheless, a limitation of this project was the timeframe of the internship which has prevented further operationalization of the model. Furthermore, it was unfeasible to integrate the map with the IT systems used at DAGP. This would simplify the method of assessing assurance since most of the information surveyed in the third line inquiries exists in these systems. So, it is highly suggested that this integration occurs in the forthcoming years.

Regarding future investigation, it is recommended the creation of a guide explaining how to use and update the assurance map. As a matter of fact, the researcher will be responsible to produce this guide as well as organizing a workshop for the internal audit teams.

Finally, as this report explores a recent field of study, further research is expected. For instance, it would be relevant to investigate companies which are already using assurance mapping and, study its impact and consequences.

References

Anderson, Urton L., Margaret H. Christ, Karla M. Johnstone, and Larry E. Rittenberg. 2012. "A Post-SOX Examination of Factors Associated with the Size of Internal Audit Functions". Accounting Horizons, 26(2): 167-191.

BDO USA. 2015. "2015 BDO Retail Risk Factor Report." https://www.bdo.com/getattachment/dd7f2d7e-3b20-4233-8014-852e33a740df/attachment.aspx (accessed December 10, 2015)

Beumer, Hans. 2006. "A Risk-oriented Approach". *Internal Auditor*, 63(1): 72-76.

Decaux, Loic, and Gerrit Sarens. 2015. "Implementing combined assurance: insights from multiple case studies". *Managerial Auditing Journal*, 30: 56-79.

Huber, Christian, and Tobias Scheytt. 2013. "The dispositive of risk management: Reconstructing risk management after the financial crisis". *Management Accounting Research*, 24: 88-99.

Jackson, Tony. 2015. "Partners in Assurance". Internal Auditor, 72: 61-63.

Kapoor, Gaurav, and Michael Brozzetti. 2012. "The Transformation of Internal Auditing: challenges, responsibilities and implementation". The CPA Journal, 82(8): 32-35.

Organization for Economic Co-operation and Development. 2015. "G20/OECD Principles of Corporate Governance." http://www.oecd.org/g20/meetings/antalya/Corporate-Governance-Principles-ENG.pdf (accessed November 16, 2015).

Mason, Jennifer. 2002. *Qualitative Researching*. London. Sage Publications.

Parkinson, Michael. 2004. "A strategy for providing Assurance". *Internal Auditor*, 61(6): 63-38.

Pirson, Michael, and Shann Turnbull. 2011. "Corporate Governance, Risk Management and the Financial Crisis: An Information Processing View". *Corporate Governance: An International Review*, 19(2): 459-470.

Ryan, Bob, Robert W. Scapens, and Michael Theobold. 2002. *Research methods and methodology in Finance and Accounting*. London. Thomson.

Sarens, Gerrit, Ignace De Beelde, and Patricia Everaert. 2008. "Internal Audit: A comfort provider to the audit committee". *The British Accounting Review*, 41: 90-106.

Sarens, Gerrit, and Ignace De Beelde. 2006. "The Relationship between Internal Audit and Senior Management: A Qualitative Analysis of Expectations and Perceptions". *International Journal of Auditing*, 10: 219 – 241.

Sonae. 2014. "Brochura – Sonae Improving Life." http://www.sonae.pt/en/investors/business-areas/ (accessed November 27, 2015).

Sonae. 2014. "Sonae Financial Report'14 - Management Report." http://www.sonae.pt/en/investors/financial-information/financial-data/ (accessed November, 27 2015).

Sonae. 2014. "Sonae Financial Report'14 – Financial Statements." http://www.sonae.pt/en/investors/financial-information/financial-data/ (accessed November 27, 2015).

Sonae. 2014. "Sonae Financial Report'14 – Corporate Governance Report." http://www.sonae.pt/en/investors/financial-information/financial-data/ (accessed November 29, 2015).

The Institute of Internal Auditors. 2008. "International Standards for the Professional Practice of Internal Auditing (Standards)." https://na.theiia.org/standards-guidance/Public%20Documents/IPPF%202013%20English.pdf (accessed October 27, 2015).

The Institute of Internal Auditors. 2009. "Practice Advisory 2050-2: Assurance Maps." http://www.interniaudit.cz/download/publikace/Doporuceni-pro-praxi/PA_2050-2_Assurance_Maps_2009.pdf (accessed October 27, 2015).

The Institute of Internal Auditor. 2013. "IIA Position Paper: The Three Lines of Defense in Effective Risk Management and Control." https://na.theiia.org/standards-guidance/Public%20Documents/PP%20The%20Three%20Lines%20of%20Defense%20in%20Effective%20Risk%20Management%20and%20Control.pdf (accessed November 23, 2015).

Yin, ROBERT. 2015. *Qualitative Research from Start to Finish.* 2nd ed. New York. Guilford Press.

Zhang, Yan, Jian Zhou, and Nan Zhou. 2007. "Audit committee quality, auditor independence and internal control weaknesses". *Journal of Accounting and Public Policy*, 26: 300-327.